

# **CITY OF SUNNYVALE**

## **PUBLIC WORKS DEPARTMENT/ENGINEERING DIVISION**

The following notes serves as guidelines only. Please add, delete and modify as necessary for the project.

### **GENERAL NOTES**

1. ALL MATERIAL AND WORKMANSHIP SHALL FULLY CONFORM WITH THE LATEST SPECIFICATIONS, STANDARDS AND ORDINANCES OF THE CITY OF SUNNYVALE.
2. ALL ELEVATIONS SHOWN ARE ON CITY OF SUNNYVALE DATUM.
3. ALL STANDARD STREET MONUMENTS, LOT CORNER PIPES, AND OTHER PERMANENT MONUMENTS DISTURBED DURING THE PROCESS OF CONSTRUCTION SHALL BE REPLACED BEFORE ACCEPTANCE OF THE IMPROVEMENTS BY THE CITY OF SUNNYVALE.
4. CONTRACTOR SHALL KEEP UP-TO-DATE A COMPLETE RECORD SET OF PRINTS OF THE CONTRACT DRAWINGS SHOWING EVERY CHANGE FROM THE ORIGINAL DRAWINGS MADE DURING THE COURSE OF CONSTRUCTION INCLUDING EXACT LOCATION, SIZES, MATERIALS AND EQUIPMENT. A COMPLETE SET OF CORRECTED AND COMPLETED RECORD DRAWING PRINTS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE FOR REVIEW AND APPROVAL BY THE ENGINEER.
5. CONTRACTOR SHALL COORDINATE UTILITY INFORMATION SHOWN ON THE PLANS WITH INSTALLATION OF PG&E, CABLE, TELEPHONE AND/OR JOINT TRENCH LAYOUT AND DETAILS.
6. CONTRACTOR SHALL COORDINATE WATER LINE CONNECTION WITH CITY'S PUBLIC WORKS DEPARTMENT/ FIELD SERVICES DIVISION AT 730-7510 PRIOR TO CONNECTION TO WATER SYSTEM.
7. WATER MAIN AND WATER SERVICE LINE 3" AND LARGER SHALL BE DUCTILE IRON PIPE WITH THICKNESS CLASS 52. WATER MAINS SHALL BE AWWA C-900 CLASS 200 PVC PIPES FOR PROJECT SITE NORTH OF THE RAILROAD TRACK.
8. CONTRACTOR SHALL OBTAIN PVC WATER PIPE SPECIFICATIONS FROM THE CITY AT THE TIME OF ENCROACHMENT PERMIT ISSUANCE.
9. ALL WET (OR LIVE) TAPS MADE TO EXISTING WATER MAINS 12" AND SMALLER SHALL BE PERFORMED BY THE CITY AT THE EXPENSE OF THE CONTRACTOR/OWNER. ALL TAPS REQUIRES A MINIMUM OF 48 HOURS ADVANCE NOTIFICATION TO THE CITY. THE CONTRACTOR AND/OR OWNER SHALL FURNISH FOR THE COMPLETE INSTALLATION OF THE SERVICE SADDLE OR TAPPING SLEEVE AND TAPPING GATE VALVE. TAPPING SLEEVE FOR CIP AND DIP SHALL BE MUELLER MODEL H-615, TAPPING GATE VALVE 4" TO 12" SHALL BE MUELLER MODEL T-2360-16 (FLANGED X MECHANICAL JOINTS).

10. ALL EXISTING WATER VALVES SHALL BE OPERATED ONLY BY THE CITY. THIS INCLUDES THAT OPERATION OF VALVES REQUIRED TO PERMIT THE FILLING OR THE SYSTEM INSTALLED BY THE CONTRACTOR.
11. WATER VALVE BOXES SHALL BE G-5 CHRISTY ONLY, FRAME AND COVER.
12. ALL 4 INCH AND LARGER SERVICE ON C.I. OR D.I. PIPE REQUIRES MUELLER A2360-20 VALVES AND MUELLER H-615 (D.I.) SLEEVES, OR APPROVED EQUALS. THE TAPPING SLEEVE SHALL BE THE SAME SIZE AS THE SERVICE.
13. THE LOCATION OF ALL VALVES IN THE STREET SHALL BE MARKED ON THE NEAREST CURB WITH AN INCISED ARROW POINTING TO GATE VALVE ON THE TOP OF THE CURB AND THE DISTANCE IN FEET MARKED WITH INCISED ROMAN NUMERALS ON THE FACE OF THE CURB, ALL IN 2" HIGH CHARACTERS.
14. THE METER AND METER BOX SHALL BE FURNISHED AND INSTALLED BY THE CITY UPON ACCEPTANCE OF THE LATERAL SERVICE LINE, AND THE PROPERTY OWNER HAS ASSUMED RESPONSIBILITY FOR THE CONNECTION ON THE DISCHARGE SIDE OF THE METER. A BACKFLOW PREVENTION DEVICE IS REQUIRED FOR ALL SERVICES 2" AND LARGER. NO METER SHALL BE INSTALLED PRIOR TO FULL COMPLIANCE WITH THE CROSS-CONNECTION CONTROL PROGRAM.
15. BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH THE "CITY OF SUNNYVALE WATER SYSTEM CROSS CONNECTION CONTROL PROGRAM POLICIES AND REGULATIONS". A BACKFLOW PREVENTION ASSEMBLY SHALL CONSIST OF 2 CHECK VALVES AND A PRESSURE RELIEF VALVE CONNECTED IN SERIES WITH 2 NON-RISING STEM GATE VALVES. BACKFLOW PREVENTION ASSEMBLIES SHALL BE THE SAME SIZE AS THE PIPE MAIN IN WHICH THEY ARE INSTALLED. THE ASSEMBLY SHALL BE UL LISTED AND APPROVED BY THE RESEARCH FOUNDATION FOR CROSS-CONNECTION CONTROL, UNIVERSITY OF SOUTHERN CALIFORNIA. DEVICES MUST BE PAINTED WITH 2 COATS OF BLACK UV AND WEATHER RESISTANT PAINT (RUSTOLEUM, ETC.). THE FDC AND STANDPIPE OF THE DOUBLE CHECK DETECTOR ASSEMBLY FOR FIRE SERVICES MUST BE PAINTED WITH TWO COATS OF SAFETY YELLOW (RUSTOLEUM, ETC.).
16. NEW WATER PIPELINES, VALVES, AND FITTING SHALL BE STERILIZED, TESTED BY THE CONTRACTOR, AND SHALL PASS BACTERIA AND OTHER WATER QUALITY REQUIREMENT BEFORE PUT INTO SERVICES. CONTRACTOR SHALL SUPPLY ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO DISINFECT THE PIPELINES AND APPURTENANCE. THE DISINFECTANT SHALL REMAIN IN CONTACT WITH THE WATER FOR A MINIMUM OF 24 HOURS BEFORE FLUSHING. BACTERIOLOGICAL TESTING SHALL BE CONDUCTED NO LESS THAN 24 HOURS AFTER FLUSHING. DISINFECTION WILL BE WITNESSED BY THE ENGINEER. CHLORINE TABLETS (E.G., HTH) SHALL BE FASTENED TO THE TOP OF THE PIPE WITH TAR OR PERMATEX #2 ACCORDING TO THE CITY'S SCHEDULE.
16. WATER PRESSURE TEST: PIPE SPECIFIED BY PRESSURE CLASSIFICATION, 50 PSI OVER THE PRESSURE CLASSIFICATION, WITH A MAXIMUM OF 200 PSI. OTHER TYPES OF PIE, 120% OF MAXIMUM OPERATING PRESSURE. THE TEST PRESSURE SHALL BE MEASURED AT THE HIGHEST POINT ON THE LINE UNLESS SPECIFICALLY NOTED OTHERWISE.

17. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY AFFECTED RESIDENTS AND BUSINESSES 48 HOURS PRIOR TO THE START OF A WATER MAIN SHUTDOWN. THE WATER MAIN SHUTDOWN WILL BE COMPLETED BY CITY CREWS ONLY.
18. USE VCP (EXTRA STRENGTH) OR SDR 35 PVC (GREEN) FOR SANITARY SEWER MAIN. SANITARY SEWER LATERALS SHALL BE VCP (EXTRA STRENGTH), SDR 35 PVC (GREEN), OR ABS SCHEDULE 40. STORM DRAIN MAIN SHALL BE CLASS IV RCP. STORM DRAIN LATERALS SHALL BE CLASS III RCP FOR PIPE SIZE 12" AND LARGER, OR ASTM D3034, SDR 35 PVC (GREEN) FOR PIPE SIZE 10" OR SMALLER.
19. CONTRACTOR SHALL VERIFY ALL EXISTING INVERT ELEVATIONS FOR STORM DRAIN AND SANITARY SEWER CONSTRUCTION PRIOR TO COMMENCEMENT OF ANY WORK. ALL WORK FOR STORM AND SANITARY SEWER INSTALLATION SHALL BEGIN AT THE DOWNSTREAM CONNECTION POINT. THIS WILL ALLOW FOR ANY NECESSARY ADJUSTMENTS TO BE MADE PRIOR TO THE INSTALLATION OF THE ENTIRE LINE. IF THE CONTRACTOR FAILS TO BEGIN AT THE DOWNSTREAM CONNECTION POINT AND WORKS UP STREAM, CONTRACTOR SHALL PROCEED AT CONTRACTOR'S OWN RISK AND BE RESPONSIBLE FOR ANY ADJUSTMENTS NECESSARY. CONTRACTOR SHALL VERIFY LOCATION OF SANITARY SEWER LATERAL WITH OWNER PRIOR TO CONSTRUCTION.
20. CONTRACTOR SHALL UNCOVER AND EXPOSE ALL EXISTING UTILITY WHERE THEY ARE TO BE CROSSED ABOVE OR BELOW BY THE NEW FACILITY BEING CONSTRUCTED IN ORDER TO VERIFY THE GRADE AND TO ASSURE THAT THERE IS SUFFICIENT CLEARANCE.

VERTICAL SEPARATION REQUIREMENTS:

WHERE THE NEW PIPELINE CROSSES AN EXISTING UTILITY THE MINIMUM VERTICAL SEPARATION BETWEEN THE NEW PIPELINE AND THE EXISTING UTILITY SHALL BE 12 INCHES UNLESS OTHERWISE SPECIFIED BELOW.

WHERE THE NEW PIPELINE CROSSES BELOW AN EXISTING WATER PIPELINE OR ABOVE AN EXISTING SANITARY SEWER IF THE VERTICAL SEPARATION IS LESS THAN 12 INCHES: THE JOINTS OF THE NEW PIPELINE SHALL BE A MINIMUM OF 5 FEET FROM THE CENTERLINE OF THE EXISTING PIPELINE AND THE TWO JOINTS ON EITHER SIDE OF THE EXISTING PIPELINE SHALL BE RESTRAINED. ENCASEMENT OF ANY UTILITY LINES MAY BE REQUIRED AS DIRECTED AND APPROVED BY THE CITY ENGINEER.

WHERE THE NEW PIPELINE CROSSES ABOVE AN EXISTING WATER PIPELINE OR BELOW AN EXISTING SANITARY SEWER, THE MINIMUM VERTICAL SEPARATION SHALL BE 12 INCHES. A MINIMUM OF 9 FEET FROM THE CENTERLINE OF THE EXISTING PIPELINE, AND THE TWO JOINTS ON EITHER SIDE OF THE EXISTING PIPELINE SHALL BE RESTRAINED. ENCASEMENT OF ANY UTILITY LINES MAY BE REQUIRED AS DIRECTED AND APPROVED BY THE CITY ENGINEER.

HORIZONTAL SEPARATION REQUIREMENTS:

THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE NEW PIPELINE AND ANY EXISTING UTILITY SHALL BE 4 FEET, UNLESS OTHERWISE NOTED.

THE MINIMUM HORIZONTAL SEPARATION BETWEEN THE NEW PIPELINE AND NATURAL GAS LINES SHALL BE 5 FEET.

21. DO NOT MAKE A CONNECTION BETWEEN THE NEW PIPELINES AND ANY EXISTING UTILITY UNLESS IT IS SPECIFICALLY CALLED FOR ON THE PLANS OR BY THE ENGINEER IN THE FIELD.
22. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE APPROPRIATE AGENCIES.
23. THE EXISTING UTILITIES CROSSING OF THE NEW PIPELINE ARE SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION AND DEPTH OF ALL THE UTILITY CROSSING (BOTH MAINS AND LATERALS) ARE CORRECT AS SHOWN. NO GUARANTEE IS MADE THAT ALL EXISTING UTILITIES (BOTH MAINS AND LATERALS) ARE SHOWN. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING AND SHALL PROTECT ALL EXISTING UTILITIES (BOTH MAINS AND LATERALS) FROM DAMAGE DUE TO CONTRACTOR'S OPERATION.
24. ALL UTILITY STRUCTURES INCLUDING BUT NOT LIMITED TO MANHOLES, CATCH BASINS, WATER VALVES, FIRE HYDRANTS, CABLE TV, TELEPHONE AND ELECTRIC VAULTS AND PULL BOXES ETC., THAT LIE WITHIN THE PUBLIC RIGHT OF WAY, EASEMENTS OR AREAS AFFECTED BY THE WORK ON THE PROJECT SHALL BE ADJUSTED TO GRADE BY THE CONTRACTOR OF THE RESPECTIVE UTILITY COMPANY FOR WHICH THE CONTRACTOR IS RESPONSIBLE TO COORDINATE.
25. ALL UTILITY SERVICE LATERALS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED TO THE SATISFACTION OF THE CITY ENGINEER.
26. ALL EXISTING UTILITY VAULTS AND/OR PULL BOXES THAT ARE LOOSE AND/OR BROKEN SHALL BE RE-SECURED AND/OR REPLACED TO THE CITY'S SATISFACTION.
27. ALL ABUTTING PROPERTIES SHALL BE PROVIDED ACCESS AT ALL TIMES DURING CONSTRUCTION OF UTILITIES. TRENCHES SHALL BE BACKFILLED AND PAVED (TEMPORARY CUTBACK ASPHALT) PRIOR TO LEAVING THE JOB SITE EACH WORKDAY.
28. ALL OPEN TRENCHES SHALL BE BACKFILLED AT THE END OF EACH WORKDAY. NO TRENCH SHALL BE LEFT OPEN DURING NON-WORKING HOURS. STEEL PLATES SHALL NOT BE USED TO COVER TRENCHES WITHOUT THE APPROVAL OF THE ENGINEER. PROPERLY BARRICADED, FENCED AND LIGHTED CASING PIPE BORE PITS MAY BE LEFT OPEN DURING NON-WORKING HOURS WHILE CASING PIPES ARE BEING INSTALLED.
29. TYPICAL TRENCH SHALL BE PER APPLICABLE CITY STANDARD NO. 16A-1, 16A-2, 16A-3, 16A-4 AND 16A-5. FOR CLSM USED AS TRENCH PIPE BEDDING AND TRENCH BACKFILL, THE MINIMUM CEMENT QUANTITY SHALL BE 47 POUNDS PER CUBIC

YARD. THE 28-DAY COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 100 PSI AND A MAXIMUM OF 200 PSI.

30. ASPHALT TO BE MIXED WITH AGGREGATE SHALL BE GRADE AR-4000. ASPHALT CONCRETE SHALL CONFORM TO THE STATE STANDARD SPECIFICATIONS, SECTION 39. BASE COURSES SHALL BE  $\frac{3}{4}$ " MAXIMUM, MEDIUM. SURFACE COURSE AND OVERLAY SHALL BE  $\frac{1}{2}$ " MAXIMUM, MEDIUM.
31. ASPHALT CONCRETE SHALL NOT BE PLACED WHEN THE ATMOSPHERIC TEMPERATURE IS BELOW 10°C (50°F) AND FALLING OR DURING UNSUITABLE WEATHER.
32. FOR CONCRETE USED FOR CURBS, GUTTERS, SIDEWALK OR DRIVEWAY APPROACHES, LAMPBLACK SHALL BE ADDED AT THE RATE OF 1 PINT (POWDER) PER CUBIC YARD.
33. GRADE BREAKS ON CURBS AND SIDEWALKS TO BE ROUNDED OFF (WHILE CONCRETE FINISHING WORK IS IN PROGRESS) IN FORM WORK AND FINISHED SURFACING.
34. REPLACE EXISTING CURB MARKINGS AND PAINT AFTER INSTALLATION OF NEW CURB AND GUTTER.
35. CITY FIELD ENGINEER SHALL HAVE 24-HOUR NOTICE FOR INSPECTION.
36. APPROVAL OF THESE PLANS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR THE CORRECTION OF MISTAKES, ERRORS OR OMISSIONS.
37. CONTRACTOR SHALL REPLACE EXISTING TRAFFIC STRIPING AND DETECTOR LOOPS THAT ARE DISTURBED BY CONSTRUCTION OPERATIONS TO THE CITY'S SATISFACTION.
38. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
39. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND REPAIRS TO THE SERVICE TRENCH AND PAVEMENT FOR A ONE-YEAR WARRANTY PERIOD AFTER ACCEPTANCE OF THE WORK BY THE CITY. ONE YEAR AFTER ACCEPTANCE, THE CITY WILL MAKE A FINAL INSPECTION. IF REPAIRS HAVE TO BE MADE, THE CONTRACTOR OR DEVELOPER WILL BE NOTIFIED TO MAKE REPAIRS.
40. CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FROM PUBLIC WORKS DEPARTMENT/ENGINEERING FOR ALL OFF-SITE IMPROVEMENTS.
41. PRIOR TO STARTING CONSTRUCTION, A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE SUBMITTED TO THE CITY PUBLIC WORKS AND BUILDING DEPARTMENTS. REFERENCE IS MADE TO THE STATE OF CALIFORNIA BEST

MANAGEMENT PRACTICES HANDBOOK FOR APPLICABLE CONTROL MEASURE. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SWPPP AND EMPLOY ITS PROVISIONS THROUGHOUT ALL CONSTRUCTION.

42. CONTRACTOR SHALL STENCIL ALL CATCH BASINS WITH THE NON-POINT-SOURCE "NO DUMPING" MESSAGE. THE STENCIL IS AVAILABLE FROM THE CITY'S ENVIRONMENTAL DIVISION, WHICH MAY BE REACHED BY CALLING (408) 730-7260.